KOLAR Document ID: 1361257

CORRECTION #1

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 5046
Name: Raymond Oil Company, Inc.
Address 1: PO BOX 48788
Address 2:
City: WICHITA State: KS Zip: 67201 + 8788
Contact Person: Clarke T. Sandberg
Phone: (316) 267-4214
CONTRACTOR: License # 6039
Name: L. D. Drilling, Inc.
Wellsite Geologist: Kim Shoemaker
Purchaser: CHS

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ EOR Permit #:
☐ GSW Permit #:

04/25/2017 Spud Date or Recompletion Date
05/15/2017 Date Reached TD
06/14/2017 Completion Date or Recompletion Date

API No.: 15-023-21464-00-00
Spot Description:
NW - SW - SW - NE Sec. 20 Twp. 4 S. R. 37 ☐ East ☑ West
2299 Feet from ☑ North / ☐ South Line of Section
2633 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Cheyenne
Lease Name: HAACK-SOWERS UNIT Well #: 1
Field Name:
Producing Formation: Myric Station
Elevation: Ground: 3441 Kelly Bushing: 3446
Total Vertical Depth: 5114 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 380 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 3500 ppm Fluid volume: 650 bbls
Dewatering method used: Evaporated
Location of fluid disposal if hauled offsite:
Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT
I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY
☑ **Confidentiality Requested**
Date: 07/05/2017
☑ **Confidential Release Date:** 07/05/2019
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/25/2017

KOLAR Document ID: 1361257

CORRECTION #1

Page Two

Operator Name: Raymond Oil Company, Inc. Lease Name: HAACK-SOWERS UNIT Well #: 1

Sec. 20 Twp. 4 S. R. 37 ☐ East ☑ West County: Cheyenne

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

Geologist Report / Mud Logs ☐ Yes ☐ No

List All E. Logs Run:

Micro
Dual Induc
Comp Density

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name: Attached Top: Attached Datum: Attached

CASING RECORD ☑ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	380	Blend #2	270	3% cc, 2% gel
Production	7.875	5.5	15.5	5095	60/40 poz	490	8% gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/ Injection: 07/20/2017

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)*

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
4752	
4754	

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

TUBING RECORD: Size: 2.875 Set At: 4765 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Raymond Oil Company, Inc.
Well Name	HAACK-SOWERS UNIT 1
Doc ID	1361257

Tops

Name	Top	Datum
B/Anh	3248	+198
Lans	4335	-889
Mun Crk	4456	-1010
Stk Sh	4536	-1090
Paw	4712	-1266
CK Sh	4792	-1346
Miss	5029	-1583
Total	5114	

Form	ACO1 - Well Completion
Operator	Raymond Oil Company, Inc.
Well Name	HAACK-SOWERS UNIT 1
Doc ID	1361257

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
2	4752-4754	500 gal 20% MCA AC + 1000 gal 20% SGA AC	4754

Form	ACO1 - Well Completion
Operator	Raymond Oil Company, Inc.
Well Name	HAACK-SOWERS UNIT 1
Doc ID	1361257

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	380	Blend #2	270	3% cc, 2% gel
Production	7.875	5.5	15.5	5095	60/40 poz	490	8% gel

Summary of Changes

Lease Name and Number: HAACK-SOWERS UNIT 1

API/Permit #: 15-023-21464-00-00

Doc ID: 1361257

Correction Number: 1

Approved By: Karen Ritter

Field Name	Previous Value	New Value
Approved Date	07/06/2017	07/25/2017
Date of First or Resumed Production or SWD or Enhr		07/20/2017
Producing Method Pumping	No	Yes
Save Link	../../kcc/detail/operatorEditDetail.cfm?docID=1358141	../../kcc/detail/operatorEditDetail.cfm?docID=1361257

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1358141

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

CONFIDENTIAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

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Name: Raymond Oil Company, Inc.
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Address 2:
City: WICHITA State: KS Zip: 67201 + 8788
Contact Person: Clarke T. Sandberg
Phone: (316) 267-4214
CONTRACTOR: License # 6039
Name: L. D. Drilling, Inc.
Wellsite Geologist: Kim Shoemaker
Purchaser: CHS

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☑ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:

Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

04/25/2017	05/15/2017	06/14/2017
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-023-21464-00-00
Spot Description:
NW SW SW NE Sec. 20 Twp. 4 S. R. 37 ☐ East ☑ West
2299 Feet from ☑ North / ☐ South Line of Section
2633 Feet from ☑ East / ☐ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☑ NE ☐ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Cheyenne
Lease Name: HAACK-SOWERS UNIT Well #: 1
Field Name:
Producing Formation: Myric Station
Elevation: Ground: 3441 Kelly Bushing: 3446
Total Vertical Depth: 5114 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 380 Feet
Multiple Stage Cementing Collar Used? ☐ Yes ☑ No
If yes, show depth set: Feet
If Alternate II completion, cement circulated from:
feet depth to: w/ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 3500 ppm Fluid volume: 650 bbls
Dewatering method used: Evaporated

Location of fluid disposal if hauled offsite:

Operator Name:
Lease Name: License #:
Quarter Sec. Twp. S. R. ☐ East ☐ West
County: Permit #:

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

☑ **Confidentiality Requested**
Date: 07/05/2017
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/06/2017

8059

TICKET NUMBER 51786
LOCATION Oakley KS
FOREMAN Jerry K

QES
PRESSURE PUMPING

620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice # 610278

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
5-16-17	7158	Haack-Sowers Unit #1	20	4S	37W	Cheyenne

CUSTOMER: Raymond Oil
MAILING ADDRESS: P.O. Box 48788
CITY: Wichita | STATE: KS | ZIP CODE:

McDonald to 31 S South to Site 4

TRUCK #	DRIVER	TRUCK #	DRIVER
731	Cory D		
566	Walt D		
529 T127	Walt D		
assist	Seth O		

JOB TYPE 2-Stage | HOLE SIZE 7 7/8 | HOLE DEPTH 5114 | CASING SIZE & WEIGHT 5½ 15.5#
CASING DEPTH 5095 | DRILL PIPE | TUBING | OTHER DV tool @ 3243
SLURRY WEIGHT 14.2/12.5 | SLURRY VOL 1.42 / 1.89 | WATER gal/sk | CEMENT LEFT in CASING 42'
DISPLACEMENT 120/77 | DISPLACEMENT PSI | MIX PSI | RATE

REMARKS: Safty meeting rig up on L.D run float equip. Cent on 12, 15, 75 turbolizers on 6, 9, 79, 82, 85, 88, 91 baskets on 3, 10' & on 76 DV tool on 76 set @ 3243 run casing to bottom pump ball thru circ with 40 pump 5bbl H_2O, mud flush, 5bbl H_2O mix 125 sks Thixoblend III 5# Kolseal per sk shut down release plug clean pump & lines displace 121 bbl (40 H_2O 81 mud) plug landed @ 1200# final lift 600# released back & float held open tool 900# circ 3 hrs pump 5bbl H_2O mix 460 sks liteblend III ¼# flo seal shut down release plug clean pump & lines display 45½ bbl ← 600# lift plug landed and tool closed @ 1200# released back & float held
→ DV @ 1911' ← circulated cement from there
30 sks Rathole

Thank you
Jerry & crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE 0450	1	PUMP CHARGE	3900.00	3900.00
CE0002	50	MILEAGE	7.15	357.50
CE0710	26.97	ton mileage delivery	1.75	2359.88
CC 5862	125 sks	thixoblend III (1250)	26.00	3250.00
CC 6077	625 #	Kolseal	.50	312.50
CC5831	490 sks	Liteblend III (60/40%) (1250)	17.50	8575.00
CC 6075	123 #	flow seal	3.00	369.00
CC 6125	500 gal	mud flush	.65	325.00
CP 8485	1	5½ AFU Float shoe	585.00	585.00
CP 8254	1	5½ latch down assy	400.00	400.00
CP 8554	3	centralizers 5½	81.00	243.00
CP 8576	7	turbolizers 5½	110.00	770.00
CP 8629	2	5½ baskets	385.00	770.00
CP 8801	1	5½ DV Tool	5970.00	5970.00
			subtotal	28,186.88
			-35% disc	9865.41
			subtotal	18321.47
			SALES TAX	1191.72
			ESTIMATED TOTAL	19513.19

Ravin 3737

AUTHORIZTION _____ TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form

0856
7965

CONSOLIDATED
Oil Well Services, LLC

TICKET NUMBER 51777
LOCATION Oakley KS
FOREMAN Jerry K

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice #810158

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
4-25-17	7158	Hoack-Sawers Unit #1	20	4S	37W	Cheyenne

CUSTOMER: Raymond Oil
MAILING ADDRESS: P.O. Box 48788
CITY: Wichita | STATE: Ks | ZIP CODE: 67201

McDonald W to 31 S to bins

TRUCK #	DRIVER	TRUCK #	DRIVER
731	Cory B		
566	Walt B		

JOB TYPE Surface | HOLE SIZE 12 1/4 | HOLE DEPTH 384 | CASING SIZE & WEIGHT 8 5/8 24#
CASING DEPTH 380 | DRILL PIPE | TUBING | OTHER
SLURRY WEIGHT 14.8 | SLURRY VOL 1.24 | WATER gal/sk | CEMENT LEFT in CASING 20'
DISPLACEMENT 23bbl | DISPLACEMENT PSI | MIX PSI | RATE

REMARKS: Safty meeting & rig up on LD break circulation with rig tree mix 270 sks surface blend II shut down release plug washup & displace with 23 bbl fresh water & shut in. Circulated cement to surface

Cement did Circulate

Thank you
Jerry crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0491	1	PUMP CHARGE	1150.00	1150.00
CE0002	50	MILEAGE	7.15	357.50
CE0710	12.69	ton mileage delivery	1.25	1110.38
CC5871	270sks	surface blend II	23.00	6210.00
CP8228	1	8 5/8 wooden plug	165.00	165.00
			Subtotal	8992.88
			-35%	3147.50
			Subtotal	5845.38
			SALES TAX	352.22
			ESTIMATED TOTAL	6197.60

Ravin 3737

AUTHORIZTION Rhl Walker TITLE DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

KIM B. SHOEMAKER

CONSULTING GEOLOGIST

316-684-9709 * WICHITA, KS

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY RAYMOND OIL COMPANY, INC.

LEASE #1 HAACK-SOWERS UNIT

FIELD WILDCAT

LOCATION 2299' FNL & 2633' FEL

SEC 20 TWSP 4s RGE 37w

COUNTY CHEYENNE STATE KANSAS

CONTRACTOR L.D. DRILLING, INC.

SPUD 4-25-17 COMP 5-16-17

RTD 5115 LTD 5114

MUD UP 3566 TYPE MUD CHEMICAL

ELEVATIONS

KB 3446

DF

GL 3441

Measurements Are All From 3446 KB

CASING

SURFACE 8 5/8"@ 380'

PRODUCTION 5 1/2"@

ELECTRICAL SURVEYS

DUAL IND., DENS-N., MICRO

SAMPLES SAVED FROM 3700 TO 5115

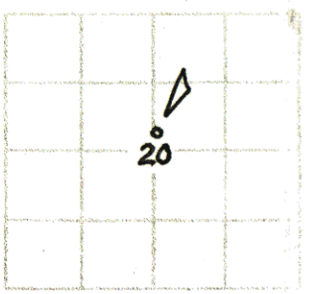
DRILLING TIME KEPT FROM 3700 TO 5115

SAMPLES EXAMINED FROM 3700 TO 5115

GEOLOGICAL SUPERVISION FROM 3800 TO 5115

GEOLOGIST ON WELL KIM B. SHOEMAKER

FORMATION TOPS	LOG	SAMPLES
ANHYDRITE	3210 + 236	3210 + 236
B/ANH.	3248 + 198	3251 + 195
HEEBNER	4281 - 835	4283 - 837
LANSING	4334 - 888	4334 - 888
B/KC	4590 - 1144	4593 - 1147
PAWNEE	4712 - 1266	4719 - 1273
FORT SCOTT	4768 - 1322	4770 - 1324
CHEROKEE	4792 - 1346	4789 - 1343
MISSISSIPPI	5029 - 1583	5030 - 1584



REMARKS

API: 15-023-21464

4-25-17 SPUD
4-26 @ 555'
4-27 @ 2000'
4-28 @ 2631'
4-29 @ 3317'
SNOW
5-8 @ 3348'
5-9 @ 3580'
5-10 @ 3972'
5-11 @ 4322'
5-12 @ 4545'
5-13 @ 4705'
5-14 @ 4780'
5-15 @ 5115'

LEGEND

SHOE01-11

Anhydrite Salt Limestone Shale Core # Limestone Dolomite Chert Other

LITHOLOGY

DEPTH

DRILLING TIME IN MINUTES PER FOOT

Rate of Penetration Increases

5" 10" 15" 20" 25"

SAMPLE DESCRIPTIONS

REMARKS

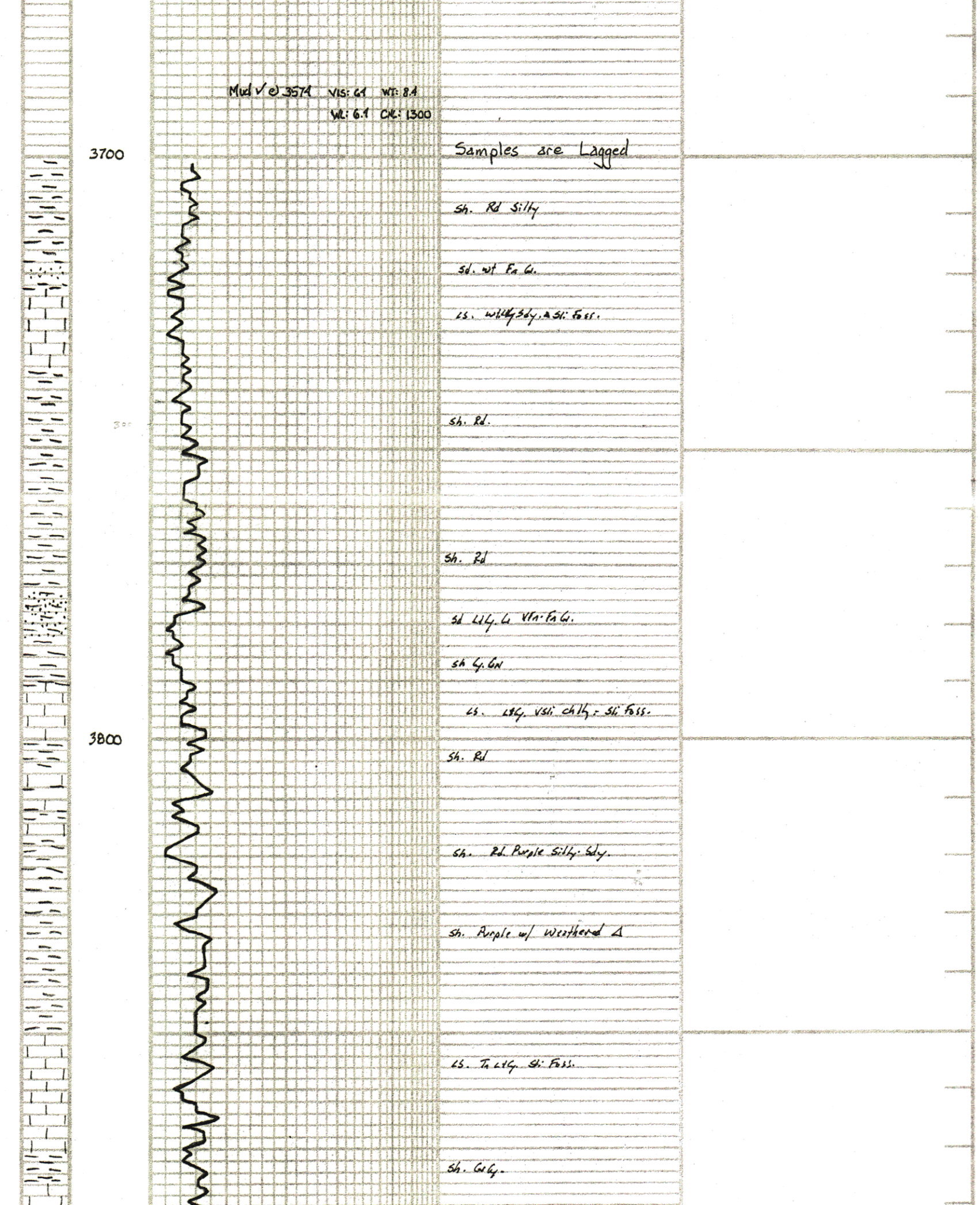
3150

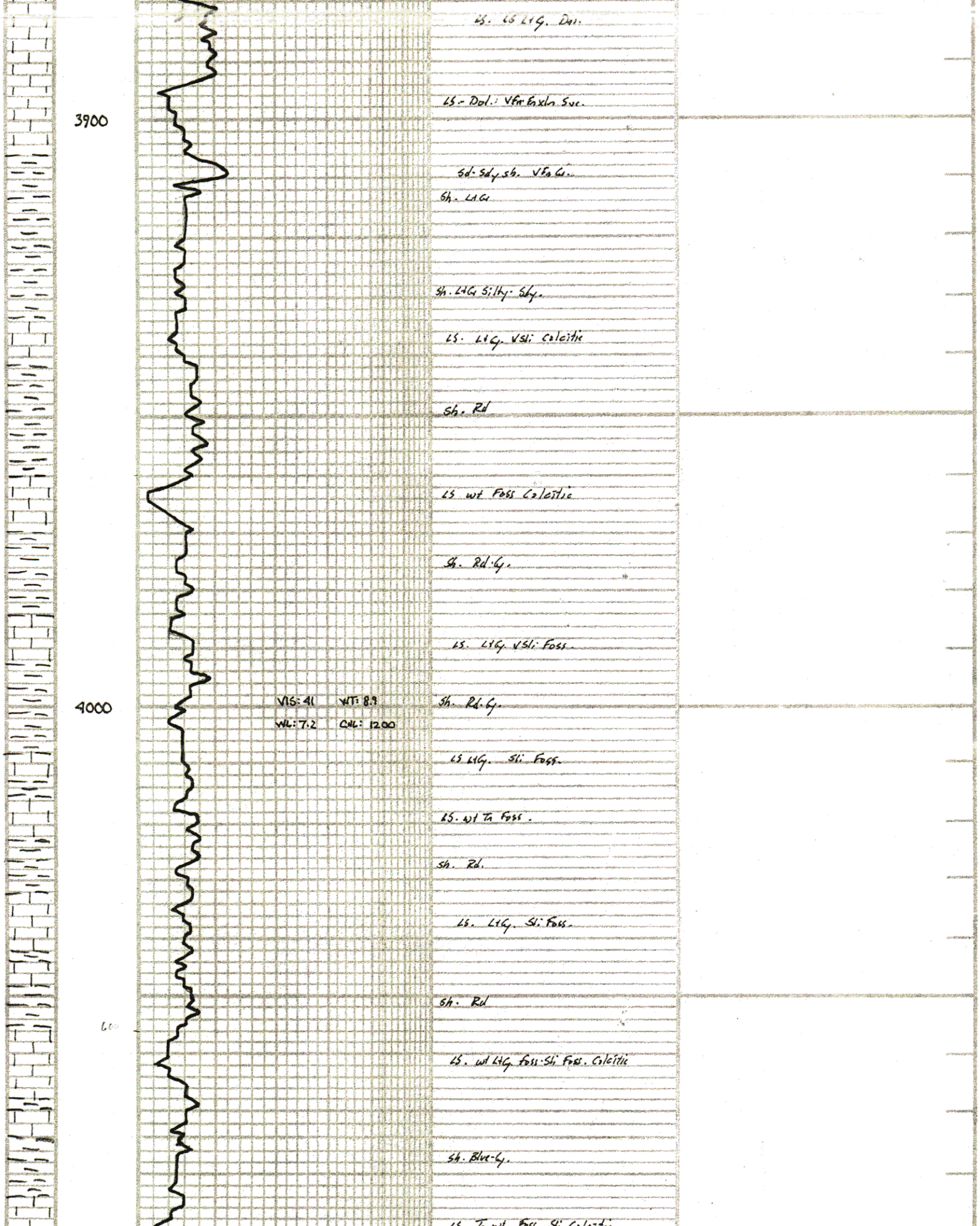
3200

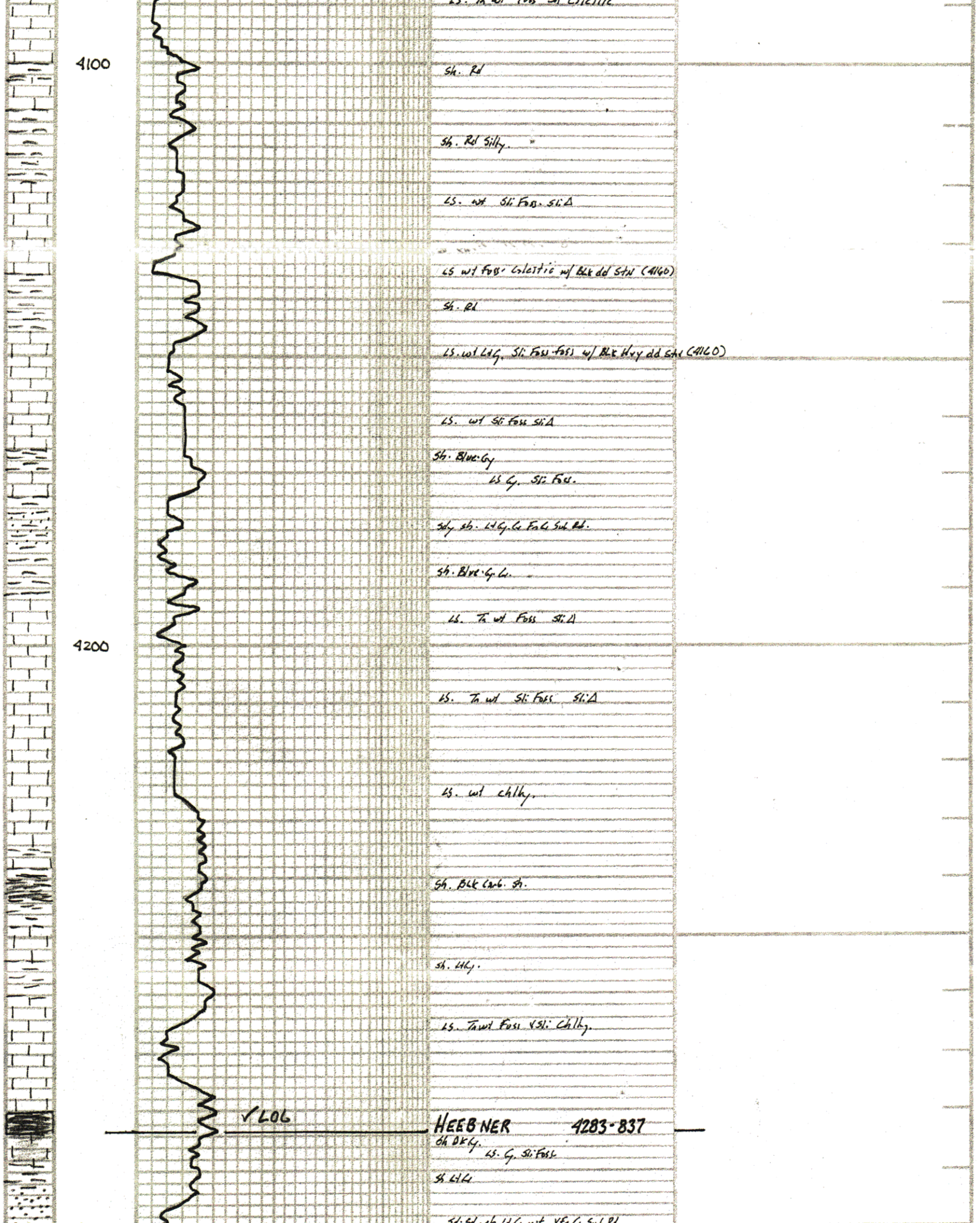
ANHYDRITE 3210 + 236

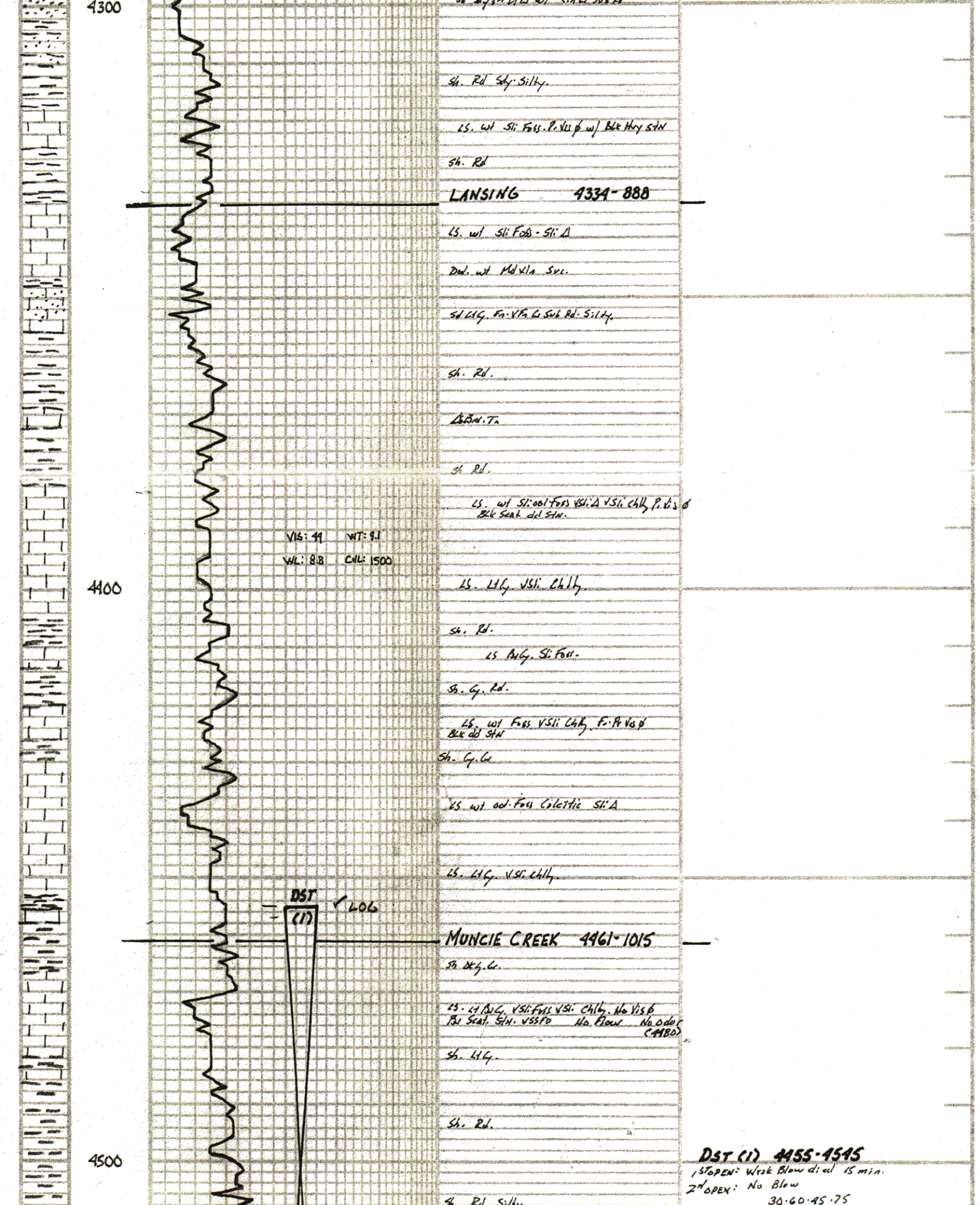
B/ANH. 3251 + 195

3300


Mud ✓ @ 3574 VIS: 61 WT: 8.4
WL: 6.1 CK: 1300
3700
Samples are Lagged
Sh. Rd Silty
Sd. wt Fn Gr.
Ls. wtly Sdy. & Sli. Foss.
Sh. Rd.
Sh. Rd
Sd Lt Gy. Gr Vfn. Fn Gr.
Sh Gy. Gn
Ls. Lt Gy. Vsli ch lty - Sli Foss.
3800
Sh. Rd
Sh. Rd. Purple Silty Sdy.
Sh. Purple w/ Weathered Δ
Ls. Tn Lt Gy. Sli Foss.
Sh. Gn Gy.


LS. LtG LtG. Dol.
LS - Dol.: Vfn Fn-Xln Suc.
3900
Sd- Sdy. Sh. VDkG.
Sh. LtG.
Sh. LtG Silty- Sdy.
LS. LtG. VSli Calcitic
Sh. Rd
LS wt Foss Calcitic
Sh. Rd-Gy.
LS. LtG. VSli Foss.
VIS: 41 WT: 8.9
WL: 7.2 CWL: 12.00
4000
Sh. Rd-Gy.
LS LtG. Sli Foss.
LS. wt Tn Foss.
Sh. Rd.
LS. LtG. Sli Foss.
Sh. Rd
LS. wt LtG foss: Sli Foss. Calcitic
Sh. Blue-Gy.


4100
Sh. Rd
Sh. Rd Silty.
LS. wt Sli Foss. Sli Δ
LS wt Foss. Calcitic w/ Blk dd Stn (4160)
Sh. Rd
LS. wt LtGy. Sli Foss Foss) w/ Blk Hvy dd Stn (4160)
LS. wt Sli Foss Sli Δ
Sh. Blue Gy
LS Gy. Sli Foss.
Sdy sh. LtGy. Gy Fos Sub Rd.
Sh. Blue Gy Ls.
LS. Tn wt Foss Sli Δ
4200
LS. Tn wt Sli Foss Sli Δ
LS. wt chlky.
Sh. Blk Carb. Sh.
Sh. LtGy.
LS. Tn wt Foss Sli. Chlky.
✓LOG
HEEBNER 4283-837
Sh Dk Gy.
LS. Gy. Sli Foss.
Sh LtGy
Sli Sd. Sh LtGy wt VFG Gy Sli Pl


4300
Sh. Rd Sdy: Silty.
LS. wt Sli Foss. P. Vsl ϕ w/ Blk Hvy Stn
Sh. Rd
LANSING 4334-888
LS. wt Sli Foss - Sli Δ
Dol. wt Md x/a Sucr.
Sd Lt Gy. Fn: V Fn Gr Sub Rd: Silty.
Sh. Rd.
Lt Brn: Tn
Sh Rd.
LS. wt Sli: obl Foss Vsl. Δ V Sli Chty P. Vis ϕ
Blk Stain dd Stn.
VIS: 44 WT: 9.1
WL: 8.8 CHL: 1500
4400
LS. Lt Gy. V Sli Chty.
Sh. Rd.
LS Lt Gy. Sli Foss.
Sh. Gy. Rd.
LS wt Foss V Sli Chty. F-Pr Vis ϕ
Blk dd Stn
Sh. Gy. Gr
LS wt od. Foss Calcitic Sli Δ
LS. Lt Gy. V Sli Chty.
DST (1) ✓ LOG
MUNCIE CREEK 4461-1015
Sh Dk Gy. Gr.
LS. Lt Dk Gy. V Sli Foss V Sli Chty. No Vis ϕ
Pal Stain. Stn. V SSFD No Flow No Odor
CAMBO
Sh. Lt Gy.
Sh. Rd.
4500
DST (1) 4455-4515
1ST OPEN: Weak Blow died 15 min.
2ND OPEN: No Blow
30-60-45-75

Sh. Bd.

Ls. Bn. V Sli. Foss.

Ls. wt V Sli. Foss. V Sli. Chlky. V Sli. A. Pr. Vis ø
Bn. Si. dd Sh. SSFO No Flow No Odor
(4536 30")

Sh. G.G.

✓ LOG

STARK
4592-1096

VIS: 55 WT: 9.3

WL: 8.0 CHL: 4400

Ls. wt Foss Sli. A. V Sli. Chlky. V Sli. Calcitic

✓ LOG

Sh. DK.G.

HUSHPUCKNEY 4573-1127

Sh. Bd.

Ls. wt Foss Calcitic Sli. D

BIKC 4593-1147

Sh. Bl. Lt. G.

4600

MARMATON
4601-1155

Ls. Bn. G. Sli. Foss.

Sh. Lt. G. G.

ALTAMONT

Ls. Lt. G. V Sli. A

Ls. Lt. G. V Sli. Silty.

Sh. Lt. G. Silty.

Sh. Lt. G. Silty

'B'

Ls. wt Foss Calcitic Dns.

Ls. Tn. Lt. Bn. V Sli. Calcitic

Sh. Lt. G.

Ls. Tn. Lt. Bn. Sli. Foss. Sli. A

Ls. Lt. G. V Sli. Silty

4700

DST
(2)

VIS: 56 WT: 9.2

WL: 8.8 CHL: 2500

✓ LOG

Sh. Gy. Dk. G.

Rec. 1' Mud

FP: 10-13 12-11#

SIP: 262-163#

Temp. 139°F

DST (2) 4700-4750

1ST OPEN: Bottom bucket 30 sec. BB: BOB 10 min

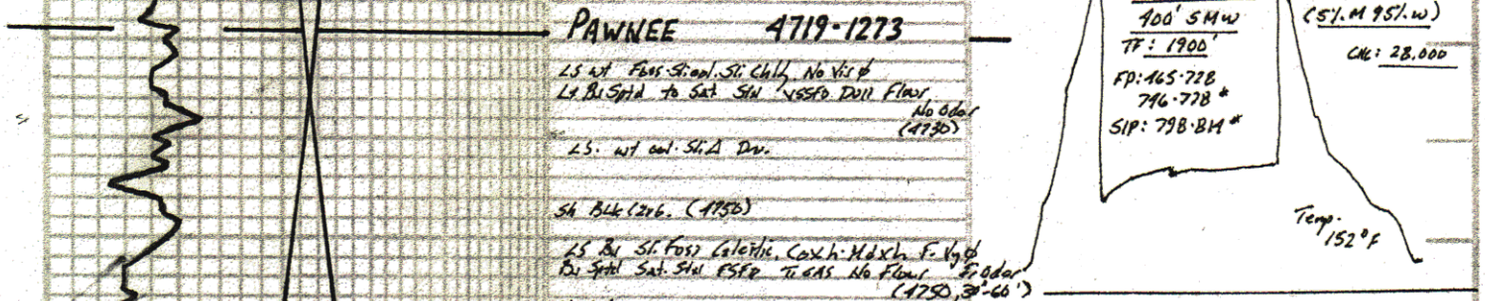
2ND OPEN: " " 2 min. BB: " 27 "

30-60-45-90

Rec. 1750' G I P

800' Clean Oil 31.8 G.i.a.v.

700' GMCW (18% G 10% M 30% Oil 50% W)



PAWNEE 4719-1273

LS wt Foss Sl. cal. Sli Chlky. No Vis ⊕
Lt Bl Spkld to Sat Stn VSSFD Dull Flour No Odor (1730)

LS. wt cal. Sli Δ Dns.

Sh Blk Carb. (1756)

LS Bl Sl. Foss Calcitic. Coarse Mod to F. Vug ⊕
Bl Spkld Sat. Stn FSFD Tr GAS No Flour F. Odor (1750, 3'-60')

Sh. Gy/Gn
& Rs

(1) Piece LS wt Sh Foss Sl. Δ w/ Fr. Vug ⊕
Lt Bl Spkld - Sat Stn VSSFD Dull Flour Hoodoo (1770)
Δ wt Lt Gy. (1) piece
LS wt Sl. Foss Sl. Δ

Blk Carb. Sh.

FORT SCOTT 4770-1324

LS wt Lt Gy. Sli Foss Sli Δ

LS. Lt Gy. VSli Foss.

CHEROKEE 4789-1343

VIS: 63 WT: 9.2
WL: 8.0 CHL: 3500

Sh. Dk Gy

Sh Lt Gy.

4800

LS. To Lt Gy. Sl cool w/ few dk cool.

Δ Lt Gy.

LS wt Sl. Foss Sli Chlky.

LS. Lt Gy. Dol.

Sh Lt Blue

LS. To Lt Bu VSli Foss Sli Δ

LS wt Sdy Sli Foss

Sh Dk Gy

Sh. Blue-Gy.

Sd. Clr wt Md Co Gr Sub Rd

LS wt Sdy shly w/ Rd Pink Sli Foss

LS. wt To Sdy LS w/ Md Co Gr Sub Rd

LS. wt Lt Gy w Sli Foss

Sd Gy. Md Co Gr Sub Rd w/ To Glauc ÷ Dk min.

LS. Lt Gy.

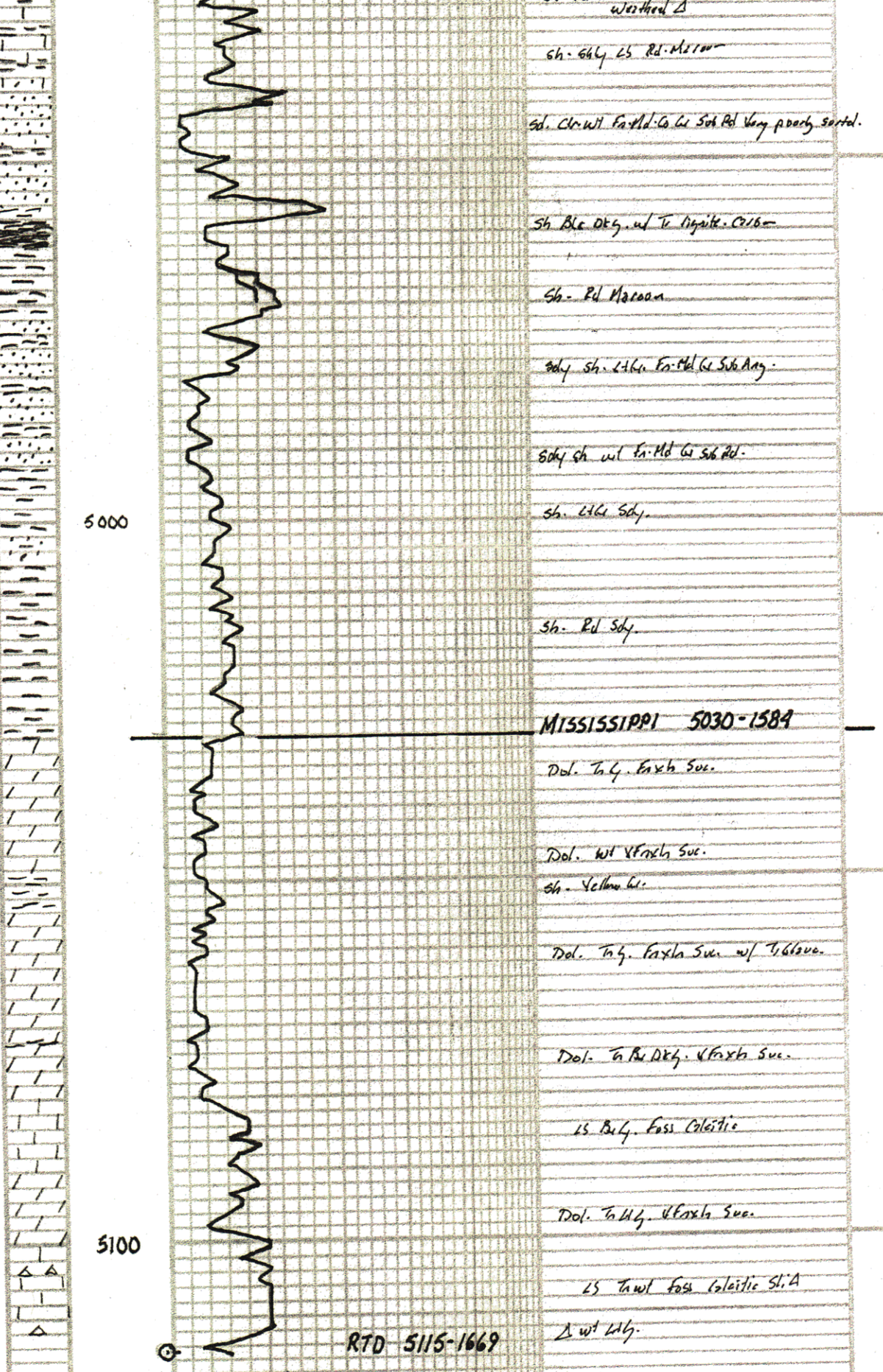
4900

Shly Sd Rd

Sd. Md Co Gr Lt Blue-Gy. Sub Rd.

LS wt Sdy. Co Gr Sub Rd

Sh. Rd



Weathered Δ

Sh. Gdy Ls Rd. Maroon

Sd. Clr. wt Fr. Md. Co Gr Sub Rd Very poorly sorted.

Sh Blk Dkg. wl Tr lignite. Calc

Sh. Rd Maroon

Sdy Sh. Lt Gr. Fr. Md Gr Sub Ang.

Sdy Sh wl Fr. Md Gr Sub Rd.

Sh. Lt Gr Sdy.

Sh. Rd Sdy.

Dol. Tn Gy. Fr. Xln Suc.

Dol. wt V Fr. Xln Suc.

Sh. Yellow Gr.

Dol. Tn Gy. Fr. Xln Suc. wl Tr Glauc.

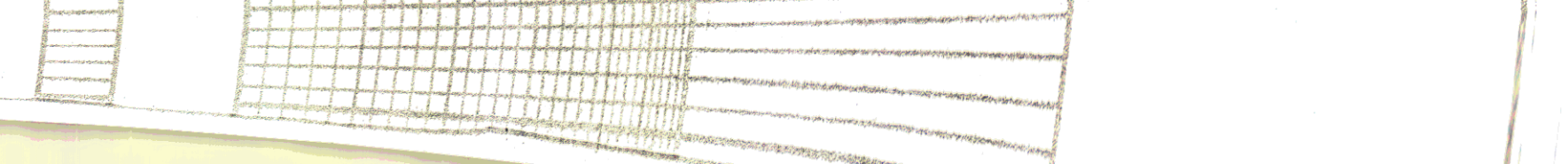
Dol. Tn Br Dkg. V Fr. Xln Suc.

Ls Brg. Foss Oolitic

Dol. Tn Lt Gy. V Fr. Xln Suc.

Ls Tn wl Foss Oolitic Sli Δ

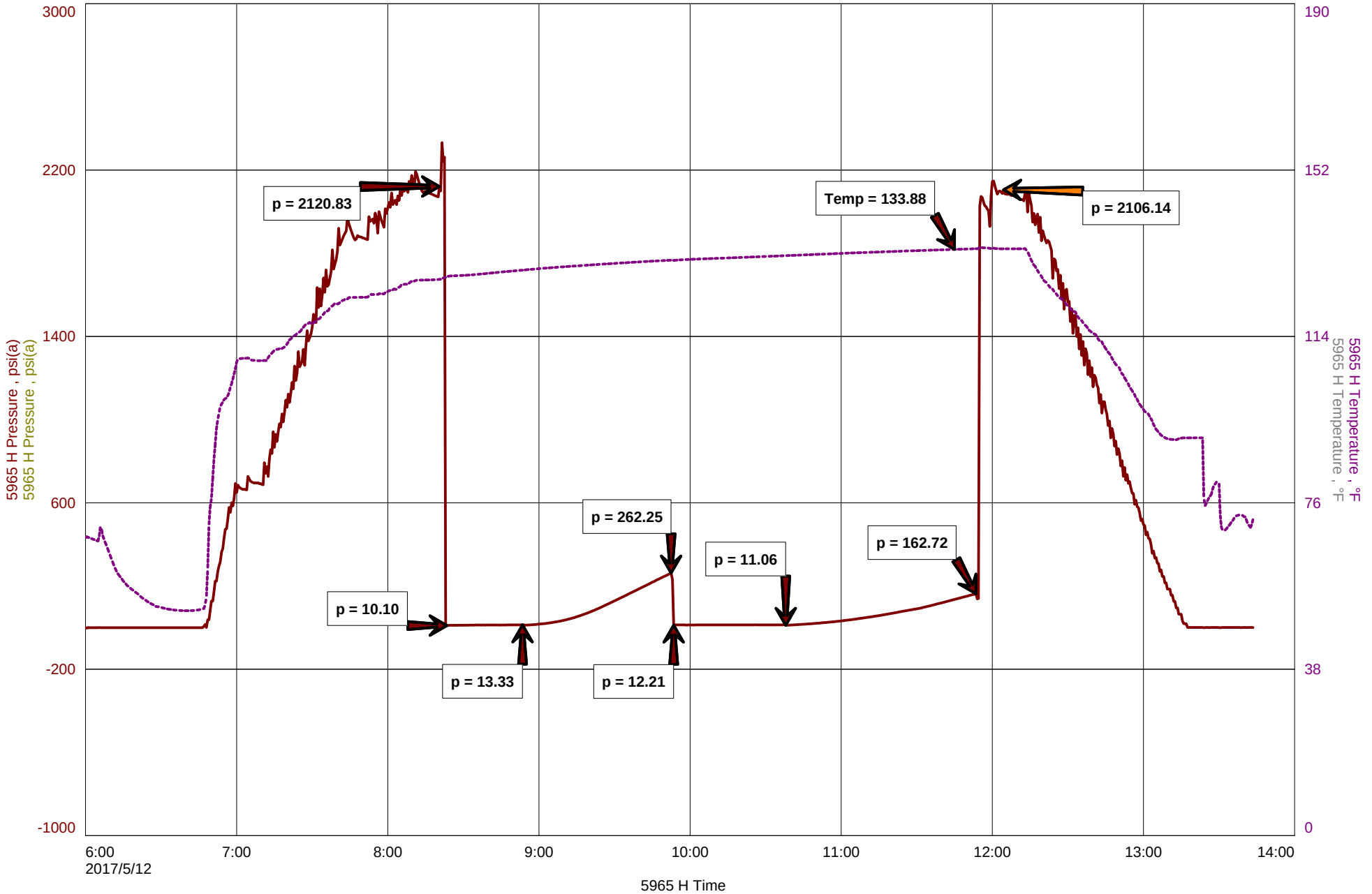
Δ wt Lt Gy.



Raymond Oil
Start Test Date: 2017/05/12
Final Test Date: 2017/05/12

Haak-Sowers Unit #1
Formation: L/KC 140'-180'
Job Number: W285

Haak-Sowers Unit #1 DST 1



Diamond Testing General Report

Wil Steinbeck
TESTER
CELL: 620-282-9067

General Information

Company Name	Raymond Oil	Job Number	W285
Contact	Kim Shoemaker	Representative	Wilbur Steinbeck
Well Name	Haak-Sowers Unit #1	Well Operator	LD
Unique Well ID		Report Date	2017/05/12
Surface Location	20-4s-37w Cheyenne/Kan	Prepared By	Wilbur Steinbeck
Field	Wildcat	Qualified By	Kim Shoemaker

Test Information

Test Type	DST Conventional
Formation	L/KC 140'-180'
Well Fluid Type	
Test Purpose	

Start Test Date	2017/05/12	Start Test Time	06:00:00
Final Test Date	2017/05/12	Final Test Time	13:45:00

Test Recovery

RECOVERY:
4' Mud
4' Total Fluid

Tool Sample=Mud

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET

FILE: Haak-Sowers Unit #1 DST 1

TIME ON: 6:00

TIME OFF: 13:45

Company Raymond Oil — Lease & Well No. Haak-Sowers Unit #1

Contractor LD Rig 1 — Charge to Raymond Oil

Elevation 3446 KB Formation Pawnee Effective Pay ____ Ft. Ticket No. W285

Date 5/12/17 Sec. 20 Twp. 4 S Range 37 W County Cheyenne State KANSAS

Test Approved By Kim Shoemaker — Diamond Representative WIL STEINBECK

Formation Test No. 1 Interval Tested from 4455 ft. to 4545 ft. Total Depth 4545 ft.

Packer Depth 4450 ft. Size 6 3/4 in. — Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4455 ft. Size 6 3/4 in. — Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4441 ft. — Recorder Number 5965 Cap. 5000 P.S.I.

Bottom Recorder Depth (Outside) 4456 ft. — Recorder Number 5587 Cap. 5000 P.S.I.

Below Straddle Recorder Depth ____ ft. — Recorder Number ____ Cap. ____ P.S.I.

Mud Type CHEMICAL Viscosity 55 — Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.1 Water Loss 8.8 cc. — Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 1500 P.P.M. — Drill Pipe Length 4422 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number J&J — Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? No Reversed Out No — Anchor Length 90 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. — Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: Surface blow died in 15 min — No Return

2nd Open: No Blow — No Return

Recovered 4 ft. of Mud

Recovered 4 ft. of Total Fluid

Recovered ____ ft. of ____

Recovered ____ ft. of ____

Recovered ____ ft. of ____

Recovered ____ ft. of ____ 160 Miles RT

Remarks: Tool Sample= Mud

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 8:20 A.M. P.M. Time Started Off Bottom 11:50 A.M. P.M. Maximum Temperature 134

Initial Hydrostatic Pressure ..... (A) 2121 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 10 P.S.I. to (C) 13 P.S.I.

Initial Closed In Period ..... Minutes 60 (D) 262 P.S.I.

Final Flow Period ..... Minutes 45 (E) 12 P.S.I. to (F) 11 P.S.I.

Final Closed In Period ..... Minutes 75 (G) 163 P.S.I.

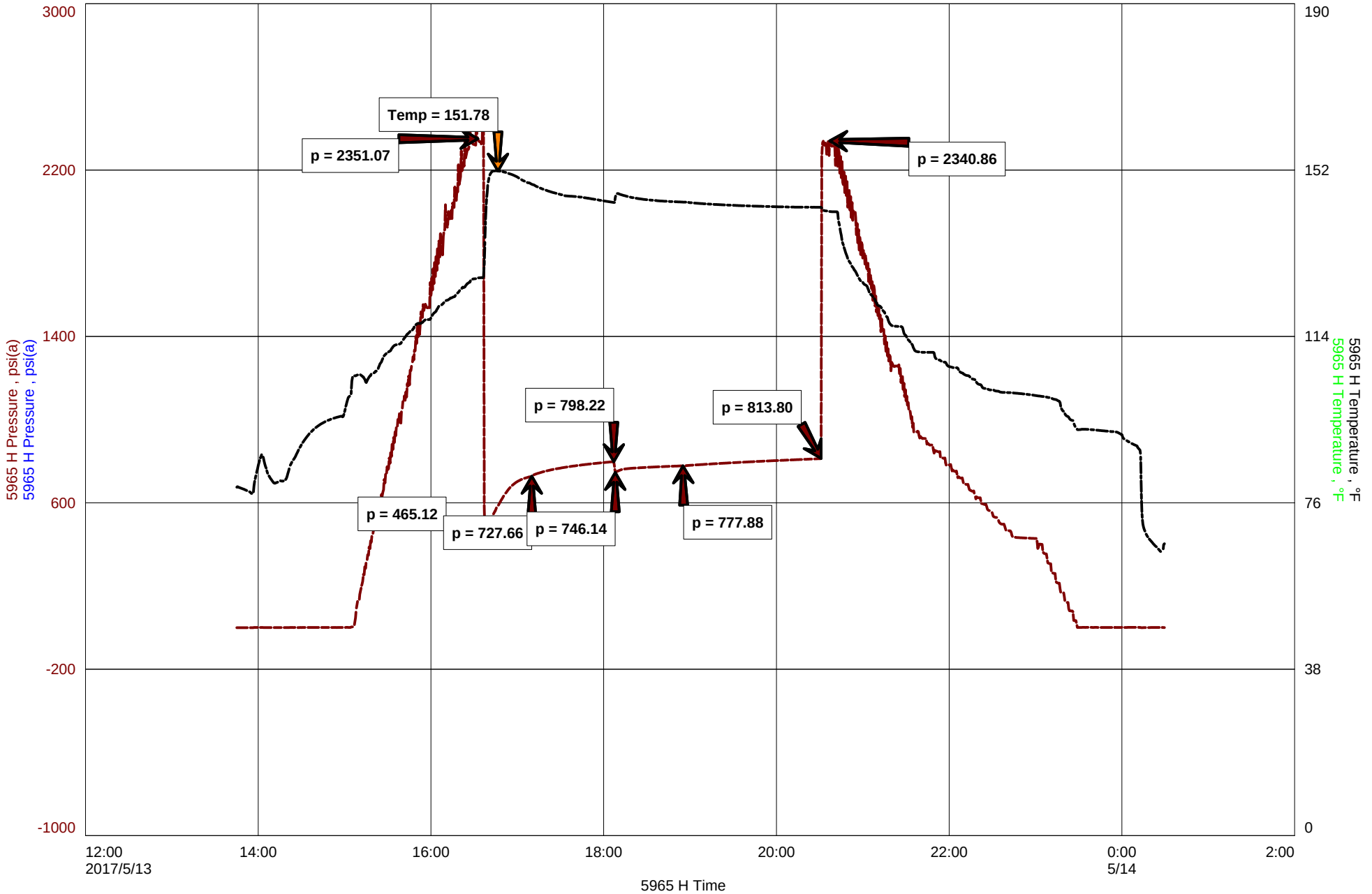
Final Hydrostatic Pressure ..... (H) 2106 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Raymond Oil
Start Test Date: 2017/05/13
Final Test Date: 2017/05/14

Haak-Sowers Unit #1
Formation: Pawnee
Job Number: W286

Haak-Sowers Unit #1 DST 2



Diamond Testing General Report

Wil Steinbeck
TESTER
CELL: 620-282-9067

General Information

Company Name	Raymond Oil	Job Number	W286
Contact	Kim Shoemaker	Representative	Wilbur Steinbeck
Well Name	Haak-Sowers Unit #1	Well Operator	LD
Unique Well ID		Report Date	2017/05/13
Surface Location	20-4s-37w Cheyenne/Kan	Prepared By	Wilbur Steinbeck
Field	Wildcat	Qualified By	Kim Shoemaker

Test Information

Test Type	DST Conventional
Formation	Pawnee
Well Fluid Type	
Test Purpose	

Start Test Date	2017/05/13	Start Test Time	13:45:00
Final Test Date	2017/05/14	Final Test Time	00:36:00

Test Recovery

RECOVERY:

800' Gassy Free Oil
700' GMOCW 10%G 10%M 30%O 50%W
400' MCW 5%M 95%W
1900' Total Fluid
1750' GIP

Tool Sample=Plugged with cutting

Corrected Gravity=31.8

Chlorides=28

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET

FILE: Haak-Sowers Unit #1 DST 2

TIME ON: 13:45

TIME OFF: 00:36

Company Raymond Oil — Lease & Well No. Haak-Sowers Unit #1

Contractor LD Rig 1 — Charge to Raymond Oil

Elevation 3446 KB Formation Pawnee Effective Pay ____ Ft. Ticket No. W286

Date 5/13/17 Sec. 20 Twp. 4 S Range 37 W County Cheyenne State KANSAS

Test Approved By Kim Shoemaker — Diamond Representative WIL STEINBECK

Formation Test No. 2 Interval Tested from 4700 ft. to 4750 ft. Total Depth 4750 ft.

Packer Depth 4695 ft. Size 6 3/4 in. — Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4700 ft. Size 6 3/4 in. — Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4686 ft. — Recorder Number 5965 Cap. 5000 P.S.I.

Bottom Recorder Depth (Outside) 4701 ft. — Recorder Number 5587 Cap. 5000 P.S.I.

Below Straddle Recorder Depth ____ ft. — Recorder Number ____ Cap. ____ P.S.I.

Mud Type CHEMICAL Viscosity 56 — Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8.8 cc. — Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 2500 P.P.M. — Drill Pipe Length 4667 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number J&J — Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? Yes Reversed Out No — Anchor Length 50 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. — Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: BOB in 1 min — BOB in 10 min

2nd Open: BOB in 2 min — BOB in 27 min

Recovered 800 ft. of Gassy Free Oil

Recovered 700 ft. of GMOCW 10%G 10%M 30%O 50%W

Recovered 400 ft. of MCW 5%M 95%W

Recovered 1900 ft. of Total Fluid

Recovered 1750 ft. of GIP

Recovered ____ ft. of 160 Miles RT

Remarks: Tool Sample= Plugged with cuttings

Corrected Gravity=31.8

Chlorides=28,000

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 16:40 A.M. P.M. Time Started Off Bottom 20:25 A.M. P.M. Maximum Temperature 152

Initial Hydrostatic Pressure ..... (A) 2341 P.S.I.

Initial Flow Period ..... Minutes 30 (B) 465 P.S.I. to (C) 728 P.S.I.

Initial Closed In Period ..... Minutes 60 (D) 798 P.S.I.

Final Flow Period ..... Minutes 45 (E) 746 P.S.I. to (F) 778 P.S.I.

Final Closed In Period ..... Minutes 75 (G) 814 P.S.I.

Final Hydrostatic Pressure ..... (H) 2341 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.